

NEW COLEOPTERA CHIEFLY FROM THE SOUTHWEST.—V.

BY H. C. FALL, PASADENA, CAL.

The new species herein described have, with a single exception, come to hand during the past year (1911) and seem worthy of prompt publication.

Quedius compransor, n. sp.

Robust, head and prothorax black, elytra and abdomen dark rufous, the latter dusky toward the base. Head including the mandibles (σ) slightly longer than wide, gradually wider posteriorly; eyes small, not at all prominent, distant from the nuchal constriction by about $2\frac{1}{2}$ times their longest diameter; a large setigerous puncture at the base of the antennæ, one at the upper margin of the eye, and two others posteriorly in a transverse line and fully twice as far from the eye as from the nuchal constriction; front without punctures. Labrum bilobed. Antennæ rather stout, filiform, but little longer than the head, joints 4-10 subsimilar and a little wider than long. Prothorax about $\frac{1}{4}$ wider than the head, $\frac{1}{5}$ wider than long and evidently wider than the elytra at base, and equal to the width of the latter posteriorly; narrowed in front, sides rounding into the base with but feeble evidence of hind angles; disk entirely without punctures, margin evidently but not strongly explanate posteriorly. Scutellum impunctate. Elytra subequal in length to the prothorax, punctuation fine and rather close throughout. Abdomen similarly but slightly less closely and evenly punctate. Head beneath with a few fine scattered punctures, lateral carina broadly interrupted. Hind tibiæ spinulose.

Length 9-11 mm.; width 2.5-3.2 mm.

Manhattan, Kansas.

Described from three males sent me by Mr. Knaus, who writes that they were taken Jan. 6, from the burrow of a "pocket gopher."

By Horn's table this interesting species would fall with *spelaeus*, to which it is allied by the small eyes and explanate side margins of the thorax, this latter character being however less marked than in *spelaeus*. It differs from *spelaeus* in its stouter form, colour, ovate head (parallel at sides in *spelaeus*), with the infraorbital carina obliterated except toward its extremities, and the absence of the usual discal series of punctures near the front of the pronotum, the marginal punctures only being present. The surface of the head and pronotum appears to the eye to be smooth and polished, but as in most species of the genus is really strigillate with

a system of exceedingly fine wavy lines with sparse very minute feebly impressed punctures, a little more evident on the head.

This is the first species to be described from our fauna without discal pronotal punctures. It is not possible to assert that their absence is constant, although completely wanting in the three specimens before me.

Tritoma tenebrosa, n. sp.

Very similar in size, form and colour to *unicolor*; broadly ovate, black, mouth, antennal stem, tarsi and tip of last ventral segment dark rufous or rufopiceous, upper surface very finely alutaceous throughout and rather dull. Head closely, distinctly but not coarsely punctate. Prothorax finely rather sparsely punctulate; punctures of elytral series moderately strong and close, nearly as in *unicolor*; intervals minutely sparsely punctulate. Body beneath dull, rather finely sparsely punctate, the ventral segments more closely so.

Length 4.8 mm.; width 2.75 mm.

Southern Pines, N.C. (Rev. A. H. Manee).

The resemblance to *unicolor* is very close in all respects except the lustre and sculpture of the pronotum, which in the latter species is strongly shining without alutaceous sculpture and with the punctuation relatively very coarse. *Angulata* is more nearly in agreement with *tenebrosa* in punctuation and surface lustre, but it is distinctly smaller, with finer less closely punctured elytral striæ and red legs.

Agrilus strigicollis, n. sp.

Form moderately stout, about as in *pensus* and *obolinus*, moderately shining, æneous, prothorax somewhat cupreous, beneath cupreo-æneous. Antennæ barely attaining the middle of the prothorax, serrate from the fifth joint, which is a little longer than wide, the following ones wider than long. Front broadly and rather deeply concave in superior half, the concavity confluent with a smaller post-clypeal impression, coarsely closely punctate, the punctures uniting in part to form short rugæ. Prothorax a little wider than long, sides nearly straight and parallel, narrowed only at the anterior angles; median line rather deeply impressed throughout, the impression broader behind; surface coarsely transversely strigose in wavy lines at the middle, the strigæ becoming longitudinal laterally; hind angles not carinate though with an obtuse elevation in the position of the usual carina, within which is a small basal impression, and another larger at the middle of the outer margin. Scutellum impressed and without transverse carina. Elytra scarcely sinuate behind the humeri, gradually narrowed

from about the middle, apices separately rounded and finely serrulate, surface rather coarsely imbricate, disk a little flattened at middle, pubescence very short, sparse and recurved, evenly distributed. Prosternum rather densely punctuate and with short recurved pubescence, lobe truncate and feebly emarginate; intercoxal process rather broad and seemingly obtuse at apex. Abdomen moderately punctate, last segment with a small emargination at apex; pygidium without projecting carina. Claws deeply cleft, the apices of the inner portions nearly in contact.

Length 9 mm.; width 2.35 mm.

The type is a female from the Huachuca Mts. of Arizona, collected and given me by Mr. Carl R. Coolidge.

This species is at once separable from any of our previously described forms by the combination of antennal and ungual character, no other species with the serration of the antennæ beginning with the fifth joint having the long inflexed claw tooth.

Diphyllostoma Fall.

The discovery of a second species of this remarkable Lucanid genus is, like the first, due to Mr. Ralph Hopping, of Kaweah, California. Of the specimens sent Mr. Hopping writes: "The Lucanid seems to have different habits from *fimbriata*, flying about 10 a.m. and in the pines at 6,600 ft. elevation, whereas *fimbriata* seems to be a night flier at 1,000 ft. A reference to the original description of *fimbriata* shows that at least one specimen of that species was taken in flight shortly after noon and it is doubtful if this distinction is more than incidental; the difference in altitude however is probably of more significance.

The new form agrees very closely in all essentials and most details with *fimbriata* and it is only necessary to refer the student to the description of the latter (CAN. ENT., 1901, p. 289), and state the differences.

D. nigricollis.

Form slightly narrower than in *fimbriata*, the prothorax a little smaller and black, the elytra piceo-testaceous, in *fimbriata* dark brown or castaneous and concolorous throughout; mandibular process less strongly emarginate; prothorax distinctly more finely and sparsely punctate, the elytra similarly but less deeply sculptured than in *fimbriata*. Tarsi a little longer and more slender, the joints more than three times as long as wide, while in *fimbriata* they are less than three times as long as wide.

Length $6\frac{1}{2}$ –8 mm.

Described from ten examples—all ♂s—taken at Huckleberry Meadow, Fresno Co., California, July 15 and Aug. 1; elevation, 6,600 ft.

Cremastochilus quadratus, n. sp.

Black, subopaque, above with very sparse short brownish erect or suberect hairs which become on the pronotal disk distinctly squamiform, varying from two to three times as long as wide; hairs beneath sparse and very short, stiff and setiform. Mentum deeply and regularly cupuliform, the margin entire. Head as in *schaumii* and *westwoodi*. Prothorax nearly one-half wider than long, widest across the hind angles which are not at all retracted, sides very broadly and just visibly sinuate before the hind angles, arcuately narrowed in front, the apex $\frac{3}{5}$ as wide as the base; front angles foveate, hind angles rectangular, triangularly smooth above, not limited within by an impression; disk broadly convex, median line impressed, punctures coarse and shallow, dense at sides, well separated toward the middle. Elytra moderately flattened, rather more so than in *westwoodi*, sculpture as in the latter species. Pygidium coarsely cribrate punctate. Body beneath coarsely moderately closely punctate. Tibiæ distinctly less broad than in *westwoodi*; front tarsi short, passing the apex of the tibiæ by only the terminal joint, or slightly more; middle tarsi subequal in length to the tibiæ; hind tarsi a little shorter than the tibiæ. All the tarsal joints are concavely compressed laterally, more strongly so basally, so that when viewed from above the joints appear much narrower at base.

Length 12.5-14 mm.: width 5-5.8 mm.

Described from three examples sent by Mr. Junius Henderson, of the University of Colorado, who took them at Ft. Mojave on the Colorado River in Western Arizona, March 16, 1911.

As indicated in the description, this insect is most nearly related to *C. westwoodi*, to which the student would be led by attempting to identify it by Horn's table of the genus. It differs markedly from that and other allied species, however, by the thorax not being narrowed behind; the pronotum is also more coarsely and less closely punctured toward the middle, the erect hairs are here more truly scales, the pygidium is more coarsely punctured, the tibiæ less stout, the front tarsi shorter and the mentum more deeply concave. The peculiar concave compression of the tarsal joints is not closely approached by any other species known to me.

Lachnosterna carolina, n. sp.

Moderately elongate, cylindrical, entirely rather pale rufo-testaceous, surface moderately shining. Clypeus broadly feebly emarginate, moderately reflexed, surface closely punctate, the front a little less densely so.

Prothorax fully twice as wide as long from a vertical view point, sides parallel posteriorly, accurately narrowed in front, margin entire, surface moderately closely, not coarsely, punctate. Elytra as closely and somewhat more coarsely punctate than the prothorax, costæ faint. Pygidium vaguely finely punctate and with a tendency to become longitudinally wrinkled. Metasternum closely punctate, hairs short and not dense. Abdomen finely sparsely punctate, nearly smooth at middle. Last joint of maxillary palpi fusiform ovate, slightly impressed.

Length 14-15 mm.; width $7\frac{1}{2}$ - $8\frac{1}{2}$ mm.

Male.—Antenna 10-jointed; club a little shorter than the stem; abdomen slightly flattened at middle, penultimate segment faintly sinuate at middle and with a slightly roughened arcuate impression which anteriorly attains the middle of the segment, and is about twice as wide as long; last segment with a shallow subrectangular emargination, the apical limiting angles not produced or acute, the bottom of the emargination feebly roughened on its extreme edge; surface of the segment with a transverse polished fovea occupying the entire length; inner spur of hind tibia short, varying from $\frac{1}{10}$ to $\frac{1}{4}$ the length of the long and slender outer spur.

This species is very closely allied to *ephilida*, which it resembles perfectly in all the more obvious characters. The latter, however, has a slightly longer antennal club, the abdomen in the male is distinctly channeled or concave at middle, the penultimate segment more evidently roughened posteriorly, the last segment more deeply emarginate, the lateral lobes more prominent, the posterior border of the emargination more widely and strongly roughened, the genitalia quite different, though of a similar type.

Described from five examples—all males—taken at Southern Pines, N.C., by Rev. A. H. Manee, the dates of capture ranging from June 14 to July 15.

Microphotus rinconis, n. sp.

Oblong, prothorax testaceous, the disk rather broadly infusate, elytra fuscous, under surface and appendages testaceous. Antennæ (δ) 8 or 9 jointed. Prothorax about $\frac{1}{4}$ wider than long, sides parallel posteriorly, arcuately narrowed in anterior half, the apex subangularly rounded; surface dull, coarsely reticulate punctate in front, somewhat less so behind, especially on the convex median portion of the disk, the latter neither channeled nor carinate. Elytra a little more than twice as long as the

prothorax, subparallel, rather coarsely but vaguely punctate, costæ variable in distinctness.

Length 6.1–6.6 mm.; width 2–2.4 mm.

Rincon Mts., Southern Arizona (Beyer).

M. octarthrus, n. sp.

Nearly similar to the preceding, the elytra and median parts of the prothorax fuscotestaceous. Antennæ 8-jointed. Prothorax but slightly wider than long, sides feebly obliquely convergent behind. Elytra a little shorter with sides more evidently arcuate in some specimens, the punctuation dense, rather coarse and better defined than in the preceding.

Length 4.75–5.3 mm.; width 2 mm.

Rincon Mts., Arizona (Byer).

Var. *pecosensis*, n. var.

Under this name I include as a variety or race of the above a series of four examples from Pecos, New Mexico, taken by Prof. Cockerell. They differ from the typical form by their larger size (5.5–6.6 mm.), relatively longer elytra, somewhat larger eyes and slightly less stout antennæ. One specimen is anomalous in its shorter elytra and is probably aberrant; it has, however, deterred me from describing this as a distinct species. This species or subspecies was recorded as *angustatus* in the New Mexico List, following LeConte's determination of Colorado specimens, which are probably the same thing.

M. decarthrus, n. sp.

Elongate, parallel, prothorax distinctly, elytra moderately shining, colour as in the preceding species. Antennæ 10-jointed. Prothorax slightly wider than long, sides a little more convergent behind, apex narrowly subtruncate at middle, surface shining, the punctures of different sizes, but as a whole finer, shallower and distinctly separated; median line channeled posteriorly. Elytra narrow, parallel, more than three times as long as the prothorax, punctuation close but vague and rather fine; costæ evident.

Length 6.6 mm.; width 2.2 mm.

Chiricahua Mts., Southern Arizona. A single specimen collected and given me by Mr. V. L. Clemence, of Pasadena, California.

The five species of *Microphotus* known to me may be easily separated by the following table, the characters of course pertaining to the males only:—

Elytra suboval, distinctly rounded on the sides *dilatatus*.

Elytra parallel, sides straight or but little rounded.

Prothorax not narrowed behind.

Prothorax semielliptical, widest at extreme base; elytra $2\frac{2}{3}$ to 4 times as long as the prothorax, brownish testaceous frequently with a pinkish tinge *angustatus*.

Prothorax with sides parallel posteriorly; elytra $2\frac{2}{3}$ to 3 times as long as the prothorax, fuscous in colour *rinconis*.

Prothorax obliquely narrowed behind, widest at about the middle.

Antennæ 8-jointed, prothorax more coarsely and densely reticulate punctate, less shining, the median line carinate or subcarinate posteriorly *octarthrus*.

Antennæ 10-jointed, prothorax more sparsely punctate and shining, median line sulcate posteriorly *decarthus*.

So far as known, *dilatatus* is confined to the Cape region of Lower California. *Angustatus* occurs in and to the west of the Sierras from Southern California to Oregon.

There is a confusing disagreement in published references to *Microphotus* as to the number or antennal joints. LeConte, in the original diagnosis of the genus (based on *dilatatus*), describes these organs as 11-jointed. In his subsequent description of *angustatus* they are said to be 9-jointed. Later, in his synopsis of the Lampyridæ, the number of joints is given in the generic table as nine in the male and eight in the female, but in the remarks upon the genus which follow on the same page the males are said to have 10 and the females 9-jointed antennæ. The small subulate appendage to the terminal joint was evidently counted by LeConte in the original description, but not afterwards. So far as my material goes *decarthus* alone has 10-jointed antennæ; of my three examples of *dilatatus* one has three organs 9-jointed, another 8-jointed, the outer joints being lacking in the third. In both specimens of *rinconis* the antennæ are evidently 8-jointed when viewed from the front, but there is a more or less complete division of the sixth joint on the lower and posterior sides so that viewed from that position they appear to be 9-jointed. In the eight examples of *octarthrus* the antennæ are uniformly 8-jointed, while in *angustatus* they are as constantly 9-jointed. The following measurements in millimeters of the length and width of the prothorax and the length of the elytra exhibit considerable variation, but the deduced ratios

are in most cases sufficiently different to be distinctive. No measurements of width of elytra are recorded, the tendency to warp, curl and separate when dry rendering them unreliable for comparative purposes.

	Length of Prothorax	Width of Prothorax	Ratio of Length to Width of Prothorax	Length of Elytra	Length of Elytra in Terms of Prothorax
<i>dilatatus</i>	2.30	2.95	.75	5.80	2.52
"	2.38	3.00	.76	6.40	2.69
"	1.78	2.25	.79	4.75	2.67
<i>rinconis</i>	1.85	2.20	.82	4.83	2.68
"	1.51	1.82	.83	4.60	3.05
<i>octarthrus</i>	1.50	1.53	.98	5.10	3.40
"	1.40	1.50	.93	4.75	3.39
"	1.50	1.60	.94	5.00	3.33
"	1.55	1.70	.91	4.00	2.58
var. <i>pecosensis</i>	1.50	1.62	.93	3.40	2.27
"	1.60	1.70	.94	3.55	2.22
"	1.40	1.52	.92	3.35	2.39
"	1.60	1.60	1.00	3.70	2.31
<i>decarthrus</i>	1.60	1.70	.94	5.00	3.13
<i>angustatus</i>	1.50	1.76	.85	5.95	3.97
"	1.50	1.75	.85	5.50	3.67
"	1.88	2.20	.85	7.00	3.72
"	1.34	1.50	.89	4.75	3.54
"	1.60	2.00	.80	6.25	3.91

Ammodonus granosus, n. sp.

Broadly oval, moderately convex, dull black, densely clothed above with appressed ash coloured scales varied with brownish, and with numerous short subrecumbent squamiform hairs which on the elytra are arranged subserially in great part; beneath with sparse appressed narrow scales or scale-like hairs, side margins of the body fimbriate with short feebly clavate squamiform hairs. Head and prothorax with numerous naked granules which are separated by about their own diameters on the head and anterior parts of the prothorax, a little less close toward the base of the latter. The prevailing colour of the scales is ashy, feebly nubilously varied with pale brown at the middle of the basal and apical parts of the pronotum; elytra with a uniformly slightly brownish shade along the suture, exterior to which is a fuscous basal spot and an irregular transverse median spot, and behind the latter and nearer to the suture than to the side margin, an elongate oblong spot of same colour.

Length 5 mm.; width $2\frac{3}{4}$ mm.

Rincon Mts., Southern Arizona.

Three examples of this interesting species were taken by Mr. G. Beyer, from one of which the above description is drawn. It is evidently

closely related to *A. fossor*, but differs notably in its conspicuously granulose head and pronotum, slightly wider head, less transverse prothorax— $\frac{3}{5}$ as long as wide—(about $\frac{1}{2}$ as long as wide in *fossor*) more pronounced elytral markings and stouter front tibiae with broader apical process. In *fossor* there are a few small granules on the head and pronotum, but these are discernible with difficulty, being nearly or quite concealed by the vestiture in all specimens I have seen.

I find it impossible from description to distinguish between *Ammodonus* and the genus *Scaptus* as defined in the "Biologia." *Scaptus tropicus* Kirsch, widely distributed over the central portions of the American continent and the adjacent islands, must be closely allied to the present species, and perhaps still more closely to *fossor*.

Supplementary Note on Microphotus.

Since sending the MS. of the present article to the publisher, Mr. A. B. Wolcott, of the Field Museum, of Chicago, has called my attention to some remarks on *Microphotus*, including the description of a new species, by Ernest Oliver, in the Revue Scientifique du Bourbonnais et du Centre de la France—1911, No. 3, p. 79. The author calls attention to the discrepancies in LeConte's writings as to the number of antennal joints, which I have alluded to above, and says that in all ♂s seen by him—excepting the new species about to be described—the antennae are 9-jointed. This new species has 10-jointed antennae and is described as follows:—

"*M. robustus*, n. sp.—Pallide testaceus, elongatus, antennis decem-articulatis; prothorace supra caput rugose et profunde punctato, lateribus leviter attenuatis, antice rotundato, basi vix sinuato, angulis rectis, carinate, pallide testaceo, macule parva basali rubescente; scutello testaceo, triangulari; elytris elongatis, subparallelis, fuscis, rugosis, obsolete costulatis, prothorace haud latioribus, apicem versus attenuatis; ♀ ignota. Long. 12 mill.—San Diego.

"Bien distinct des autres espèces par sa taille beaucoup plus grande, ses antennes de 10 articles, son prothorax court, atténué, à sommet bien arrondi, ses élytres acuminés, plus long que l'abdomen et un peu déhiscent à partir de la moitié de leur longueur, etc."

Where San Diego is we are not informed, but presumably in California. The size is much greater than in any species of the genus known to me, being nearly double that of *decarthrus*, which alone agrees with *robustus* in the number of antennal joints.